

What is claimed is:

1. A nucleic acid construct comprising:
a nucleic acid sequence comprised of a sequence of interest flanked by inverted tandem repeats and 3' distal primer binding site PBS;
a gene encoding a reverse transcriptase/RNase H; and
a gene encoding a restriction endonuclease.
2. The nucleic acid construct of claim 1 wherein said reverse transcriptase/RNase gene is selected from the group consisting of the reverse transcriptase genes from Moloney murine leukemia virus or human immunodeficiency virus.
3. The nucleic acid construct of claim 1 additionally comprising a eukaryotic promoter for said reverse transcriptase/RNase H gene.
4. The nucleic acid construct of claim 1 additionally comprising a eukaryotic promoter for said restriction endonuclease gene.
5. The nucleic acid construct of claim 1 additionally comprising a eukaryotic promoter for said sequence of interest.
6. The nucleic acid construct of claim 5 wherein the promoter for said sequence of interest is selected from the group of promoters comprising constitutive, inducible, wide-spectrum, or tissue specific promoters.
7. A method of producing single-stranded DNA having a sequence of interest comprising the steps of transcribing a cassette comprising a reverse transcriptase gene and a sequence of interest in the nucleus of a cell and converting the mRNA transcript of the sequence of interest to cDNA with the reverse transcriptase produced by the reverse transcriptase gene.
8. The method of claim 7 additionally comprising linearizing the transcript of the sequence of interest.
9. The method of claim 8 wherein the transcript of the sequence of interest is linearized by including a restriction endonuclease gene in the cassette and an inverted tandem repeat forming a restriction endonuclease site in the sequence of interest and the transcript of the sequence of interest forms a stem-loop intermediate by Watson-Crick base pairing of the inverted tandem repeat, the restriction endonuclease produced by the reverse transcriptase gene cutting the stem-loop intermediate at the restriction endonuclease site formed by the inverted tandem repeat.

10. The method of claim 7 additionally comprising inducibly promoting the transcription of the reverse transcriptase gene.

11. The method of claim 10 wherein transcription of the reverse transcriptase gene is promoted with a eukaryotic promoter.

12. A template transcript comprised of a sequence of interest flanked by invected tandem repeats, a 3' downstream primer binding site and poly(A) tail signals, and either inducible or constitutive eukaryotic productors.

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